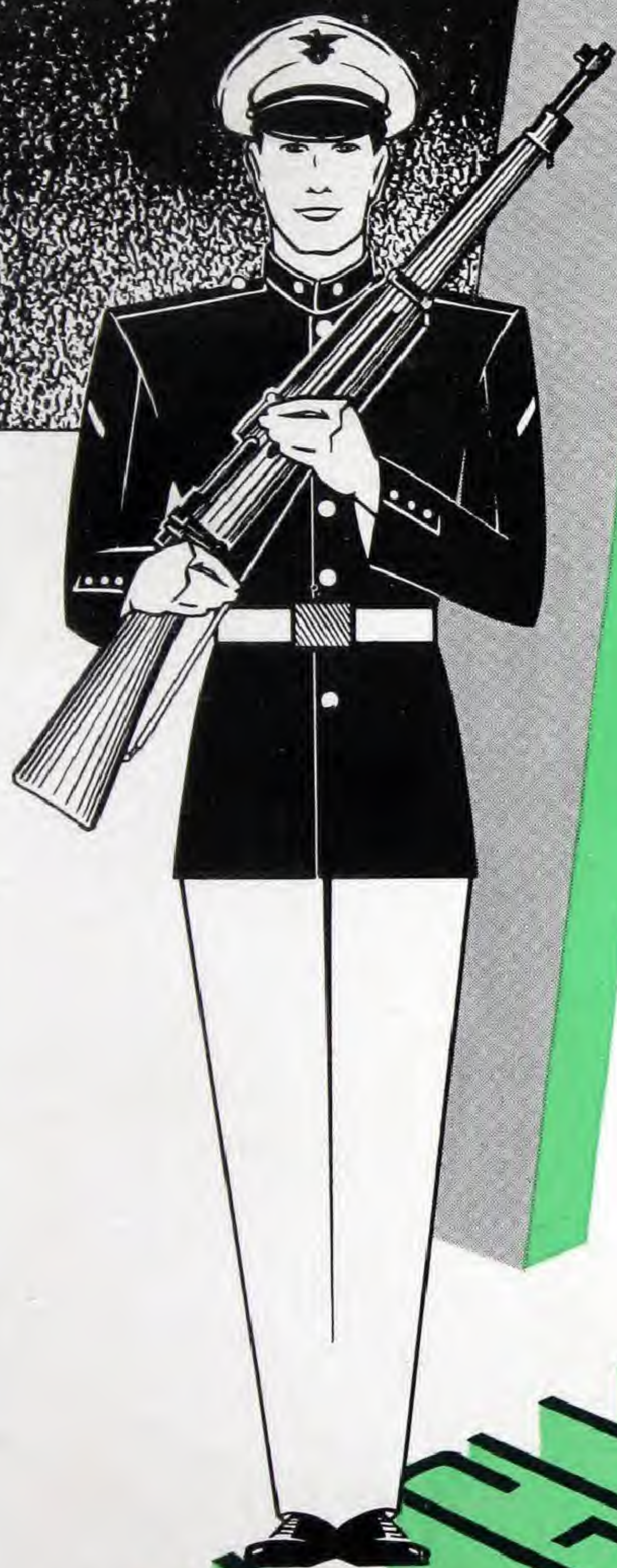


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THE SUPERIOR  
CORROSION-PROOF  
SPRAYABLE PLASTIC  
COATING FOR CONCRETE,  
METAL AND WOOD SURFACES





(Trade-mark registered  
and patents pending)

# COATINGS

ARE MANUFACTURED BY  
**AMERICAN CONCRETE &  
STEEL PIPE COMPANY**  
SOUTHGATE, CALIFORNIA

FOR EXCLUSIVE DISTRIBUTION BY

## AMERCOAT SALES AGENCY

5905 PACIFIC BOULEVARD  
HUNTINGTON PARK, CALIFORNIA

### THE FOLLOWING AMERCOAT BASE SOLUTIONS

Are Supplied Ready Mixed for Brush or Pressure Spray Gun Application to Concrete, Metal and Wood Exposed to Corrosive Conditions

AMERCOAT Concrete Prime  
(Solution No. 2)

Approximate coverage 200 sq. ft.

AMERCOAT Metal and Wood Prime  
(Solution No. 3B)

Approximate coverage 250 sq. ft.

\*AMERCOAT Enamel Coat  
(Solution No. 23)

Color—Slate Gray

Approximate coverage per coat of adequate thickness, 50 sq. ft.

\*AMERCOAT Enamel Coat in Special Colors

AMERCOAT Seal Coat..... (Solution No. 4)

Approximate coverage 200 sq. ft.

AMERCOAT Retarder.... (Solution No. 11B)

\*APPLY WITH SPRAY ONLY—CANNOT BE BRUSHED ON.

AMERCOAT Marine Prime  
Wood or Steel (Solution No. 13)

Approximate coverage 250 sq. ft.

AMERCOAT Marine Body Coat  
(Solution No. 14)

Approximate coverage 200 sq. ft.

AMERCOAT Marine Seal Coat  
(Solution No. 15)

Approximate coverage 200 sq. ft.

AMERCOAT Enamel White  
(Solution No. 23A)

AMERCOAT First Seal Coat White  
(Solution No. 4A)

AMERCOAT Final Seal Coat White  
(Solution No. 4B)

AMERCOAT Rapid-Dry (Second and Third Coats) (Solution No. 24)  
Approximate coverage 250 sq. ft. Colors—Bluegray or Black.

AMERCOAT Seal Coat Metallic Solution (Aluminum-Copper-Lead)  
Approximate coverage 250 sq. ft.

ALL SOLUTIONS PACKED IN 1 GALLON AND 5 GALLON CANS, AND IN 55 GALLON DRUMS.  
Deposit for Drums credited upon their return.





**AMERCOAT** is a radical departure from the usual type of surface-protecting covering. AMERCOAT may be applied with paint-spray apparatus, yet, it is *not a paint*; neither is it a single solution or substance that is designed to meet any and all conditions.

AMERCOAT is the name given to surface protection that may be made up of two, three, four or more separate coating solutions, applied one over the other, to form a corrosion-resistant body which cannot be peeled or chipped off. AMERCOAT is sufficiently hard to withstand a considerable amount of abrasion or erosion, yet it remains plastic enough not to check, crack or fracture when subjected to vibration or pounding.

AMERCOAT is the result of many years of intensive research, experiment, test and development. It has been thoroughly tested in both the laboratory and field, and, aside from coal tar derivatives, such as phenol, benzol or the true aromatic hydrocarbons, few acids, alkalies, or other corrosive agencies have been found that will attack it.

AMERCOAT has been submerged in dilute and up to 20% concentrated solutions of sulphuric, hydrochloric, nitric, acetic and other acids, all the encountered alkali solutions, and many other pronounced corrosive liquors, for a period of years, with no apparent loss of material or evidence of attack.

AMERCOAT is a non-conductor of electrical current and will stem the ravages of electrolysis. It is not designed to resist high temperatures and is most efficient within a temperature range of from minus 50 degrees to 150 degrees, Fahrenheit. It is absolutely impervious to gas attack and may be employed as a seal against gas or air leakage at moderate pressures.

Since each type of AMERCOAT application is designed to meet a specific condition, it is necessary that the recommended processing be heeded and followed out to the letter.

AMERCOAT is a compound of chemically inert synthetic organic plastics in their solvents, but, in order to give it body, certain inert pigments and solid inert substances, such as finely divided silica, are added when required. To build up an AMERCOAT ENAMEL Protective covering, for example, a thin coating of our own developed prime or bonding solution is applied, then the desired thickness of AMERCOAT ENAMEL, containing the body or solid substances, is sprayed over the prime coat. When this is dry, the entire covering is sealed with a thin application of the final or seal coat.

In applications where the covering is to be subjected to abrasion as well as corrosion, where a thickness or coating of up to  $\frac{1}{8}$ " or more is required, AMERCOAT PLASTIC, containing a special grade of pure fine sand instead of the pulverized silica is used in place of the AMERCOAT ENAMEL and it is troweled on, sprayed on, or applied by combining the two.

For exterior or interior protection, where a metallic coating is desired, AMERCOAT Metallic Solution (either Aluminum, Copper or Lead) may be used as a single solution coating over AMERCOAT Prime.

Should the corrosive agencies be no more than gas or spray, AMERCOAT RAPID-DRY COATING will give ample protection.

AMERCOAT MARINE BOTTOM PAINT contains certain poisons and chemicals which repel and discourage animal and vegetable marine growth.

AMERCOAT Solutions contain no paint oils, so they will not acidify, hydrolize or saponify.

AMERCOAT is the easy, economical way to eliminate the possibility of destruction by corrosive agencies, and, while normally colorless, it may be pigmentized to practically any color or shade to blend in with the surroundings or become an ornamental covering.





CORROSION-PROOF, SPRAYABLE, PLASTIC COATINGS FOR CONCRETE, METAL AND WOOD

# AMERCOAT ENAMEL

AMERCOAT ENAMEL is a three solution AMERCOAT Coating, which is made up of AMERCOAT Prime, AMERCOAT Enamel Coat and AMERCOAT Seal Coat. Ordinarily, the three solutions are applied in the order named, but where the corrosion is most severe, it is oftentimes advisable to apply the AMERCOAT Prime, then a coat of AMERCOAT Seal Coat, to seal off the Prime Coat, and follow this with a coat of AMERCOAT Enamel solution, and at least two coats of AMERCOAT Seal Coat, applied one over the other, with a twenty-four hour drying time between them.

AMERCOAT Prime Solution is a special development and the same solution cannot be used to prime all types of surfaces. AMERCOAT Concrete Prime attains its bonding characteristics by forming an actual mechanical lock; AMERCOAT Metal and Wood Prime adheres by adhesion to the surface to which it is applied, consequently, it is only possible to use AMERCOAT Concrete Prime when there is sufficient porosity of the surface to permit the solution to penetrate the pores, and form a mechanical lock as well as a foundation for the other coating solutions. AMERCOAT Coatings may not be successfully applied over any prime, other than those manufactured and marketed by this company, under the trade

name of "AMERCOAT", and AMERCOAT Coatings will not adhere to any surface that is not primed.

All AMERCOAT Primes may be sprayed or brushed over the surface, and it is only necessary that there be full coverage with no holidays. The average coverage per gallon of either of the AMERCOAT Primes is from 250 to 300 square feet.

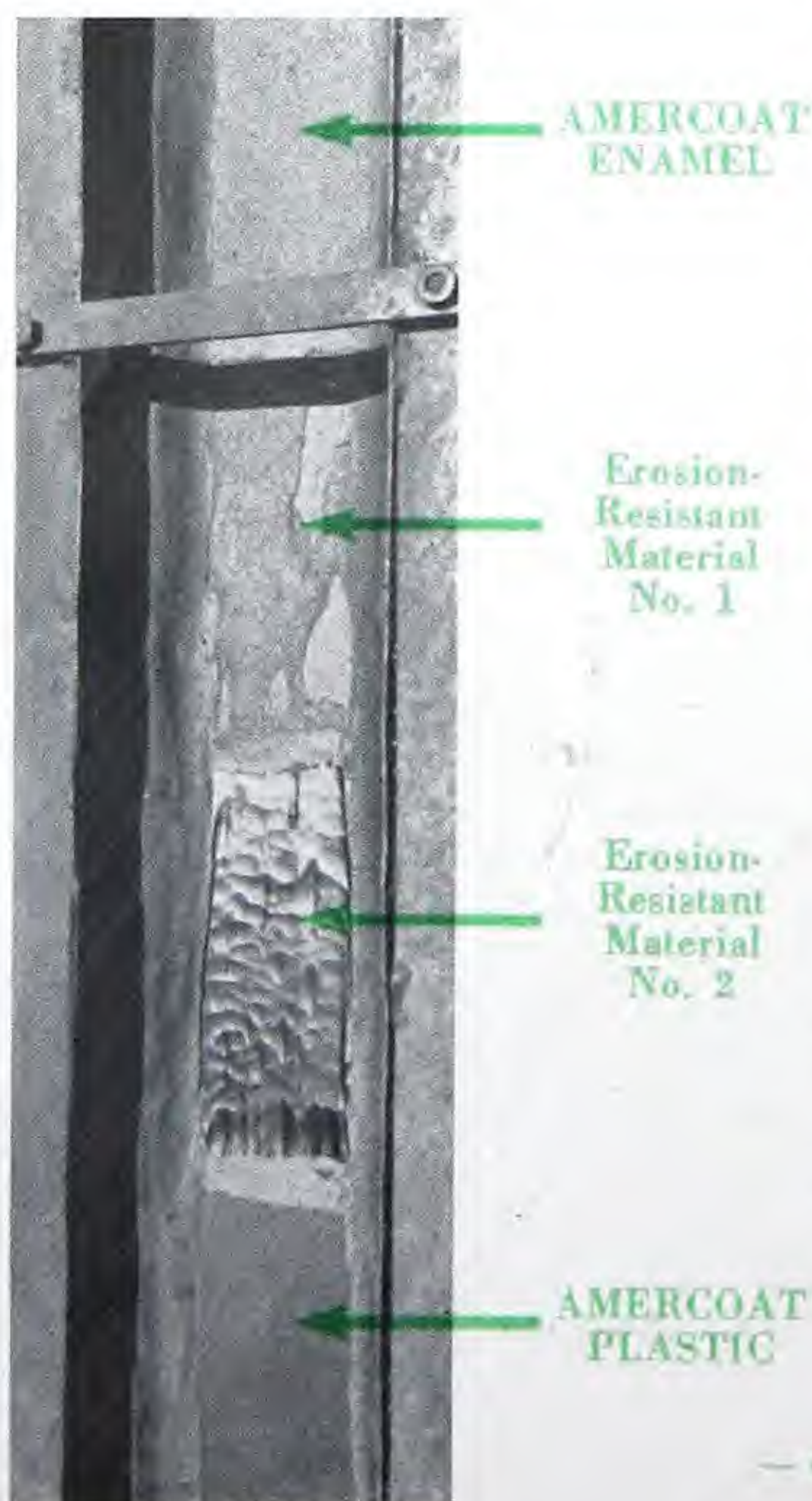
AMERCOAT Enamel Coat, or second solution, forming AMERCOAT ENAMEL Coating, consists of chemically inert synthetic organic plastics in their solvents, chemically inert pigments and finely pulverized silica, as a filler material. This solution gives the coating its body, and although it may be prepared so that it can be applied with a paint brush, the most satisfactory method of application is with a pressure type paint-spray. This solution should go on the surface wet, and while it dries rapidly, sufficient time should be allowed after its application to permit all, or at least, nearly all of its solvents to leave. Under ideal conditions, this drying time will be from 24 to 48 hours. The maintenance of at least 70 degrees temperature, and an adequate circulation of air will assist in drawing the solvents from the AMERCOAT Enamel Solution Coat.

The third, and final, coat of AMERCOAT ENAMEL is known as the AMERCOAT Seal Coat. This solution consists of chemically inert synthetic organic plastics in their solvents, either with, or without, pigments. It is this solution which penetrates through the entire coating to, and including the prime coat in such a way that the whole body is formed into a homogeneous mass, and it is also this coat which forms a positive exterior seal, and dries to provide a semi gloss to the coating. Either one, two or three applications of AMERCOAT Seal Coat are recommended, depending upon the conditions.

AMERCOAT ENAMEL is dielectric to a high degree, as is proved by the following electrical voltage puncture determination made in the California Institute of Technology:

	Puncture Voltage
Sample No. 1—Prime Coat—2 Seal Coats	800-1000
Sample No. 2—Prime Coat—3 Seal Coats	2500-3000
Sample No. 3—Prime Coat—1 Seal Coat	4000-5000
1 Enamel	
1 Seal Coat	5000-6500
Sample No. 4—Prime Coat—1 Seal Coat	
1 Enamel	5500-7000
2 Seal Coats	
Sample No. 5—Prime Coat—1 Seal Coat	5500-7000
1 Enamel	
3 Seal Coats	

Photograph shows general arrangement of abrasion test in which AMERCOAT PLASTIC withstood, without visible or measurable wear, the scouring action of flowing sand and water for a period of 600 hours. Liquid was 17% sand by volume, average velocity of liquid 6.7 feet per second. No measurable erosion resulted. AMERCOAT ENAMEL showed remarkable resistance in the same test, but is not recommended for resistance to erosion or abrasion of a severe nature.







Insofar as the resistance of AMERCOAT ENAMEL to the usually found commercial corrosive agencies is concerned, it is offered for use under conditions wherein it may be exposed to vapors of, or may be directly submerged in the following materials:

Acetic Acid—up to moderate dilutions; it is not recommended as a container for concentrated Acetic Acid.

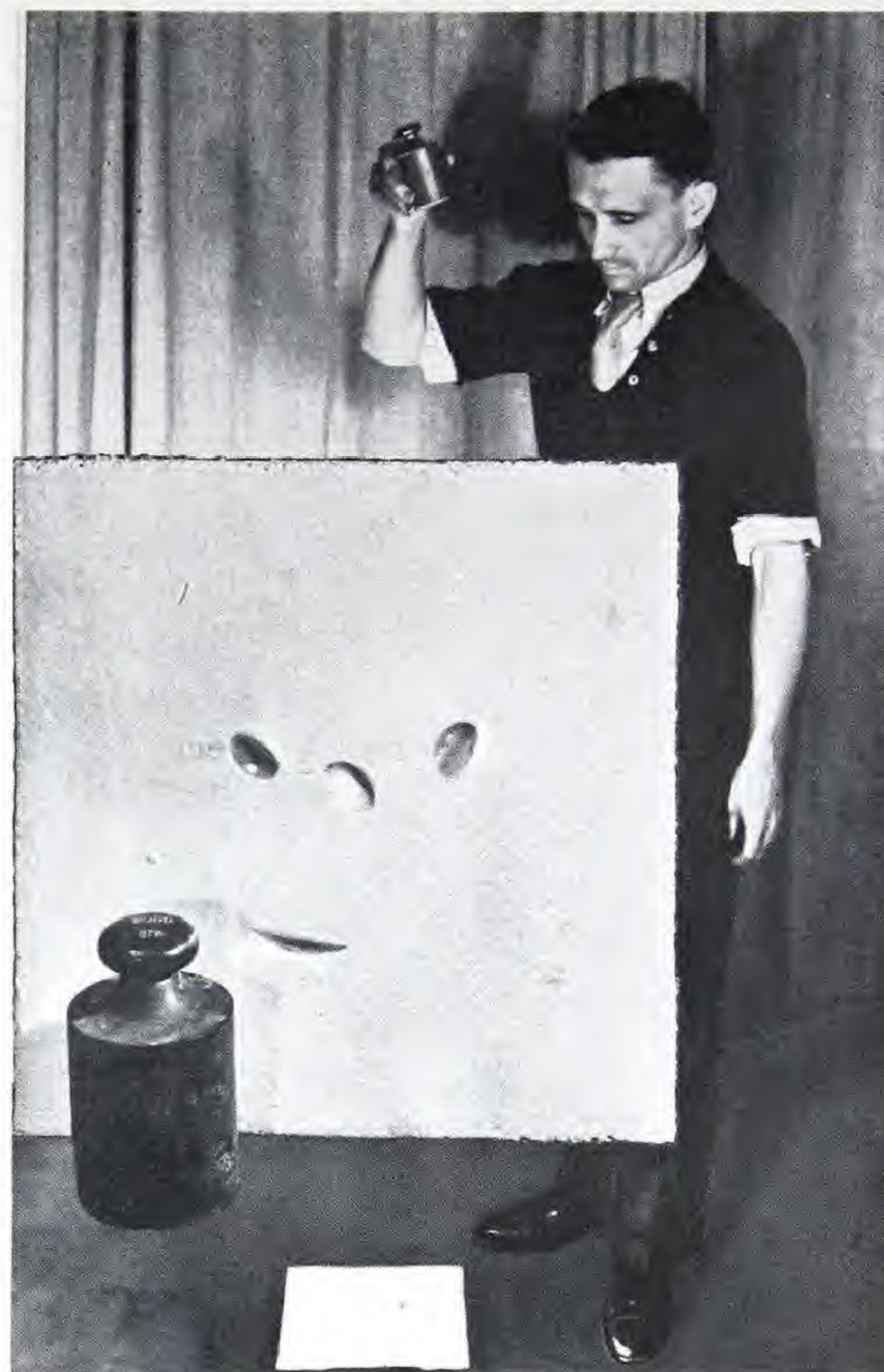
ALUMINUM CHLORIDE	MIXED ACIDS
ALUMINUM SULPHATE	NITRIC ACID
AMONIUM CHLORIC	NITROUS ACID
AMONIA ADHYDROUS	OXALIC ACID
AMONIA HYDROXIDE	PHOSPHORIC ACID
AMONIA NITRATE	SEA WATER & BRINE
AMONIA SULPHATE	SODIUM BISULPHATE
CALCIUM CHLORIDE	SODIUM CARBONATE
CALCIUM HYPOCHLORITE	SODIUM FERRICCYANIDE
CARBON BISULPHIDE	SODIUM HYDROXIDE
CARBON TETRACHLORIDE	SODIUM HYDROSULPHITE
CARBONIC ACID	SODIUM HYPOCHLORITE
CHLORINE WATER	SODIUM NITRATE
CHROMIC ACID	SODIUM PHOSPHATES
CITRIC ACID	SODIUM SULPHITE
FERROUS SULPHATE	SULPHURIC ACID
FORMALDEHYDE	SULPHUROUS ACID
HYDROBROMIC ACID	TANIC ACID
HYDROCHLORIC ACID	HYDROGEN SULPHIDE
IODINE	SULPHUR DIOXIDE
LACTIC ACID	SULPHUR TRIOXIDE
MAGNESIUM CHLORIDE	PETROLEUM and its derivatives
MAGNESIUM SULPHATE	VEGETABLE FATS & WAXES
AMERCOAT is not offered for use at elevated temperatures in any case, nor to resist:	
CONCENTRATED ACETIC ACID	ANILINE
ACETIC ANHYDRIDE	BENZALDEHYDE
ACETONE	BROMINE
CHLORACETIC ACID	BUTYL ACETATE
ETHYL ACETATE	FORMIC ACID
FERROUS SULPHATE	PHENOL
AMYL ACETATE OR AMYL CHLORIDE	COAL TAR DERIVATIVES
	AROMATIC HYDRO-CARBONS
	KETONES

In speaking of corrosion resistance to the above agents, we mean that AMERCOAT ENAMEL may actually be used to line a container of the solutions it will resist; insofar as the resistance of AMERCOAT ENAMEL to splashes and spray is concerned, there is practically no corrosive agent which will attack it, aside from the true aromatic hydrocarbons.

AMERCOAT ENAMEL is not ordinarily recommended to resist abrasion or erosion, however, as the following tabulated results of a test run by the Bureau of Power and Water of one of our larger cities, indicates, AMERCOAT ENAMEL does have considerable value for resisting abrasion and wear:

All samples were 17" internal diameter, 6" face cylinders, encased in steel.

The test was run for 500 hours, all cylinders being assembled to form a rotating barrel, one-quarter full of a mixture consisting of 66-2/3% water and 33-1/3% sand passing #10 and retained on #8 mesh.



Amercoat remains plastic to the extent that it will dent, but not crack or shatter off when subjected to a blow. Accompanying illustration shows the effect on the Amercoat of dropping a 2,000 gram weight (approximately 4½ lbs.) top down and bottom down.

Material Tested	Weight Loss-Grams	Thickness Diminution
1. Spun Concrete	45 Grams	.0082"
2. Cast Concrete	45 Grams	.0045"
3. Plain Steel	279 Grams	.0067"
4. Material #1	122 Grams	.0187"
5. Material #2	128 Grams	.0202"
6. AMERCOAT PLASTIC	23 Grams	.0022"
7. AMERCOAT ENAMEL	24 Grams	.0033"

Ordinarily AMERCOAT ENAMEL is supplied in a blue-gray color, with a colorless seal coat. However, it is possible to produce AMERCOAT ENAMEL in practically any color or shade and still not sacrifice its resistance to the travel of electrical current, or to corrosive agencies, to any marked degree. When it is desirable to color the AMERCOAT ENAMEL, both the Enamel itself and the Seal Coat must be pigmented to produce the desired shade. If the shade is but a short way removed from the gray; it is often possible to produce the color by using a pigmented seal coat, and the ordinary blue-gray Enamel solution.





CORROSION-PROOF, SPRAYABLE, PLASTIC COATINGS FOR CONCRETE, METAL AND WOOD

## AMERCOAT COATINGS FOR METALLIC SURFACES

AMERCOAT ENAMEL is an ideal coating preparation for steel, cast iron, wrought iron and other metallic surfaces that are used in corrosive conditions. The metal surface should be clean and free of scale, rust, coatings, or other impurities, to give the AMERCOAT ENAMEL a good foundation, and the application procedure is no more difficult than the application of other sprayable paint or coating solutions.

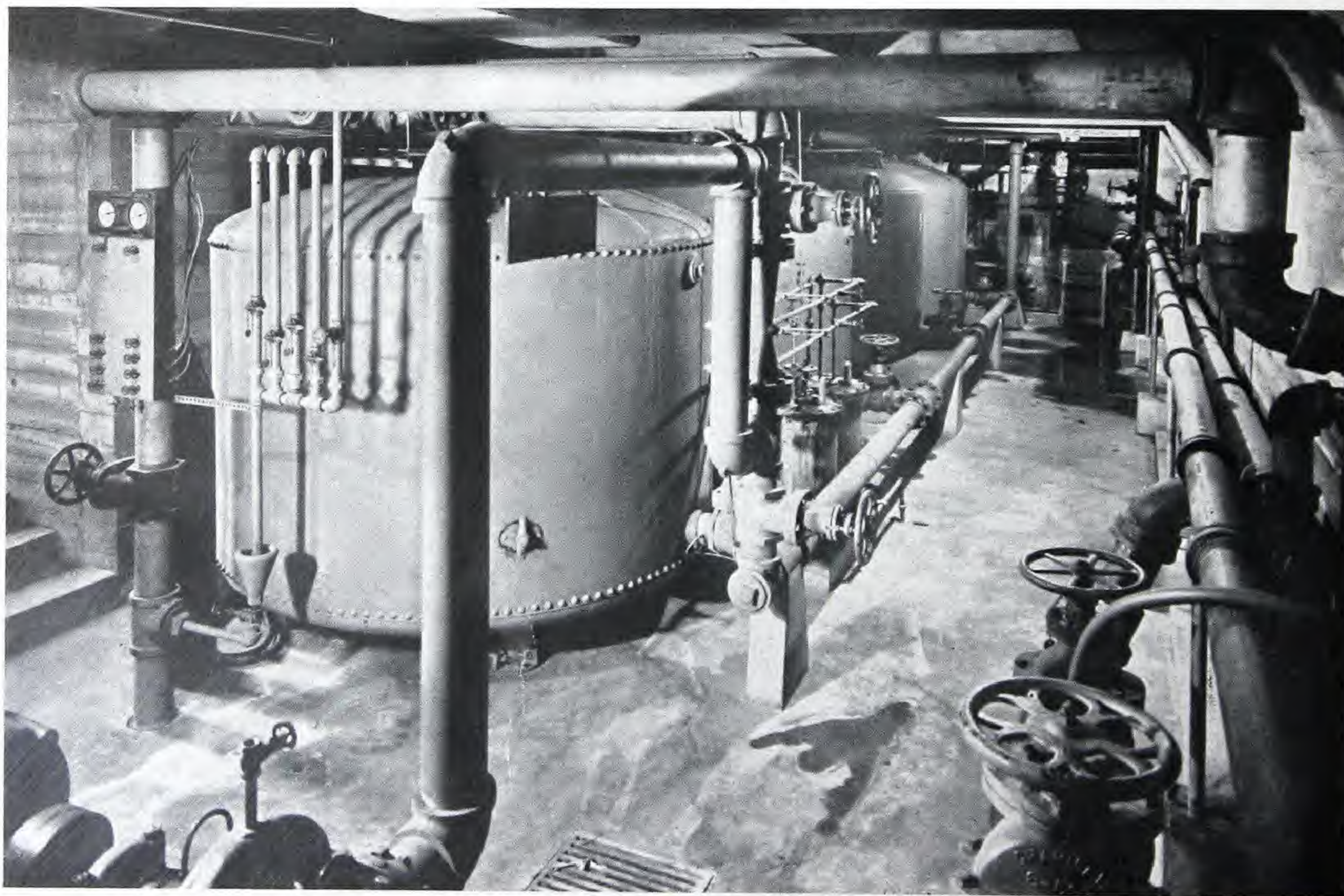
AMERCOAT Metal and Wood Prime adheres strongly to metal surfaces — particularly to sand-blasted steel — so that it is very difficult to peel or chip the coating off once it is in place.

AMERCOAT Enamel is sufficiently plastic to follow the metal to which it is applied, as it expands and contracts, through temperature variations, and it will not loosen up through vibrations of the surface to which it is attached. Further than that, AMERCOAT ENAMEL will not chip off from severe misuse or abuse, even though it may be dented.

To apply AMERCOAT ENAMEL to metallic surfaces, it is only necessary to have the metal clean and prime it. After from four to eight hours drying time for the Prime Coat, spray on a coat of AMERCOAT Enamel solution to the required thickness. When the solvents have left the Enamel solution coating, one or more seal coats may be applied.

AMERCOAT ENAMEL has been successfully used for lining storages of petroleum derivatives, brine storages, chlorination tanks, storages of bleaching solutions and containers of other types of corrosive liquids. AMERCOAT ENAMEL has also proved its efficiency as an exterior protection for metallic structures that are subjected to the corrosive action of salt water, salt spray and sun, as well as corrosive gases and liquids.

AMERCOAT ENAMEL is ideal for an exterior coating of steel and cast iron pipe lines, and has also been very successfully used as an interior coating for the protection of cast iron and steel pipe lines, which



AMERCOAT Coatings are particularly adapted for chemical plant work, water treatment plants, laundries, etc. AMERCOAT ENAMEL should be used to line the containers of corrosive liquids and AMERCOAT ALUMINUM, AMERCOAT LEAD, or AMERCOAT RAPID-DRY COATING should be employed for exterior protection.





carry corrosive liquids such as acid, alkali and similar solutions and the refuse from oil refineries and petroleum derivatives.

AMERCOAT ENAMEL will not be efficient for temperatures much in excess of 150 degrees Fahrenheit, but it is very efficient as a corrosion-resistant at low temperatures, and may be used to coat pipes, brine containers and other unit parts of refrigerating equipment.

AMERCOAT ENAMEL is a most efficient lining for acid and alkali carrying tank cars, acid and alkali storages, ship bunkers for salt and fresh water and liquid cargoes.

One very marked advantage of AMERCOAT ENAMEL is the ease with which a coating may be repaired or patched, should it become damaged in any way, and the possibility of keeping the coating very plastic and rubbery by infrequent additional applications of Amercoat Seal Coat.

## AMERCOAT METALLIC SOLUTIONS

AMERCOAT METALLIC Solutions are quite in a class by themselves.

Like other AMERCOAT Coatings, the METALLIC Solutions cannot be applied directly to the sur-



Enlarged section showing bond of AMERCOAT and steel.  
(Mag. 100x)

face to be protected, but no seal coat is required over them. The procedure is to use the proper AMERCOAT Prime and a single sprayed-on coat of the desired AMERCOAT METALLIC Solution.

In the AMERCOAT METALLIC Solutions, the same vehicle which gives AMERCOAT ENAMEL its efficiency, is used with the pure metallic pigment. After the coating has dried, if it were possible to lift it off, the coating would be found to be a continuous sheet of metallic powder, bound together with a strong, tough synthetic organic plastic binding material. AMERCOAT METALLIC Solutions actually have body and are extremely corrosion-resistant—as corrosion-resistant as is the metal used in the solution.

AMERCOAT ALUMINUM Solution is shipped ready-mixed for use, and consists only of finely divided pure aluminum powder in the synthetic organic plastic solution.

AMERCOAT COPPER Solution consists of finely divided pure copper powder in the synthetic organic plastic solution.

AMERCOAT LEAD Solution consists of pure leaf lead powder in the synthetic organic plastic solution.

Naturally, each of these metallic solutions has the bright color of the metal used, and exhibits a solid metallic surface to weathering and corrosive agencies.

AMERCOAT METALLICS are ideal for the exterior protection of structures, tanks, etc., in corrosive areas and locations; AMERCOAT Lead in particular is most usable for conduit and underground work.

AMERCOAT ALUMINUM has been in service, subjected to the most severe weathering, as well as to the action of petroleum derivatives and sulphuric acid fumes and liquid, for nearly a two-year period, without any evidence whatsoever of disintegration or discoloration.

AMERCOAT METALLIC Solutions will give a coverage of from 250 to 350 square feet per gallon.





CORROSION-PROOF, SPRAYABLE, PLASTIC COATINGS FOR CONCRETE, METAL AND WOOD

# AMERCOAT ENAMEL

## FOR THE PROTECTION OF CONCRETE

AMERCOAT COATINGS form a definite, positive bond with concrete.

Long and septic outfall and interceptor sewers, sewage treatment plants, sea walls, packing plants, oil refinery structures and plants, concrete floors, waste water lines, pipe lines and structures carrying trade wastes and all manner of concrete structures may be easily and economically saved from destruction because of corrosion, moderate erosion, or both, by AMERCOAT. Concrete walls and footings in alkali soils may be protected on the bottom as well as the exposed sides, if AMERCOAT-treated as they are installed.

AMERCOAT COATINGS are a non-conductor of electrical current and will stem the ravages of electrolysis. They are not designed to resist high temperatures and are most efficient within a temperature range of from minus 50 degrees to 150 degrees, Fahrenheit. They are absolutely impervious to gas attack and may be employed as a seal against gas or air leakage at moderate pressures.

AMERCOAT COATINGS will seal off the infiltration of capillary moisture.

Since AMERCOAT COATINGS are designed to meet a specific condition, it is necessary that the recommended processing be heeded and followed out to the letter.

AMERCOAT COATINGS are a compound of chemically inert plastics and solvents, but in order to give it body, certain solid inert substances, such as finely divided silica, are added when required. To build up an AMERCOAT protective covering on concrete, a thin coating of our own developed prime or bonding solution is applied, then the desired thickness of AMERCOAT Enamel, containing the body or solid substances, is sprayed over the prime coat. When this is dry, the entire covering is sealed with a thin application of the final or seal coat.

In applications where the covering is to be subjected to abrasion as well as corrosion, where a thickness of coating of up to  $\frac{1}{8}$ " or more is required, AMERCOAT PLASTIC, containing a special grade of pure fine sand instead of the pulverized silica, is used in place of the AMERCOAT ENAMEL and it is troweled on, sprayed on, or applied by combining the two application methods.

AMERCOAT is the easy, economical way to eliminate the possibility of destruction by corrosive agencies and, while normally colorless, it may be pigmented to practically any color or shade to blend in with the surroundings or become an ornamental covering.

## THE APPLICATION PROCEDURE

There is nothing at all intricate about the actual applying of AMERCOAT. Ordinary paint-spray equipment may be employed for the spraying; ordinary acetone is used as a cleaner, solvent and thinner; and the manufacturers of AMERCOAT make and supply a retarder, when a retarder is required.

Generally speaking, AMERCOAT solutions compare quite favorably with commercial lacquers insofar as rate of drying, size and type of nozzles and air pressure for handling are concerned. A pressure type and not a suction type spray gun should be used. The primes and the seal coats go on very easily and rapidly with a spray or they may be applied by hand with a brush.



An ordinary paint-spray gun with a long tube or nozzle facilitates the coating of the interior of concrete, cast iron or steel pipe.





A corner view of waste water catch basin, Wilmington, California, Oil Refinery. This waste water disposal line carries acids as well as destructive amounts of H<sub>2</sub>S gas, and this basin's concrete walls were covered with AMERCOAT ENAMEL. AMERCOAT PLASTIC was applied to the basin floor, due to possible abrasion. Work done in September, 1937.

To apply AMERCOAT to concrete, the surface should be slightly roughened. A glazed, troweled finish affords less opportunity for the AMERCOAT to bond properly, and for such severe demands as those to which AMERCOAT-protected concrete may be subjected, a good foundation is essential.

AMERCOAT is applied to concrete surfaces by first spraying or brushing the surface to be covered with a thin coat of AMERCOAT CONCRETE PRIME, which requires approximately four hours to dry.

Then AMERCOAT ENAMEL is sprayed on to the required thickness. A covering 1/64" in thickness will meet all ordinary corrosion-resistant requirements, but, where abrasion or erosion as well as corrosion, is a factor, thicker coatings up to 1/8" or more may be employed.

Under ideal conditions it requires 24 hours for AMERCOAT ENAMEL to lose all of its solvents and become thoroughly dry, depending, of course, upon the drying conditions and thickness of the coating. When it is dry, AMERCOAT SEAL is brushed or sprayed over the surface and in 24 hours, the coating is ready for service as a corrosion resistant. Should a very thick application be used to resist abrasion as well as corrosion, a few days' drying time should be allowed.

AMERCOAT Enamel sprays on easily and rapidly, and it is not at all difficult to build up any required thickness without sags or dripping. AMERCOAT Enamel cannot be successfully brushed on.

When it is desirable to apply AMERCOAT ENAMEL to hard finished concrete or plaster, use AMERCOAT Metal and Wood Prime instead of AMERCOAT Concrete prime and proceed the same as if AMERCOAT Concrete Prime were used.

The essential thing is to be sure that the surface is clean and of the character required, use the proper prime or first coat, then allow the specified drying time between coats.

If these instructions are carried out no difficulty of any sort should be experienced.

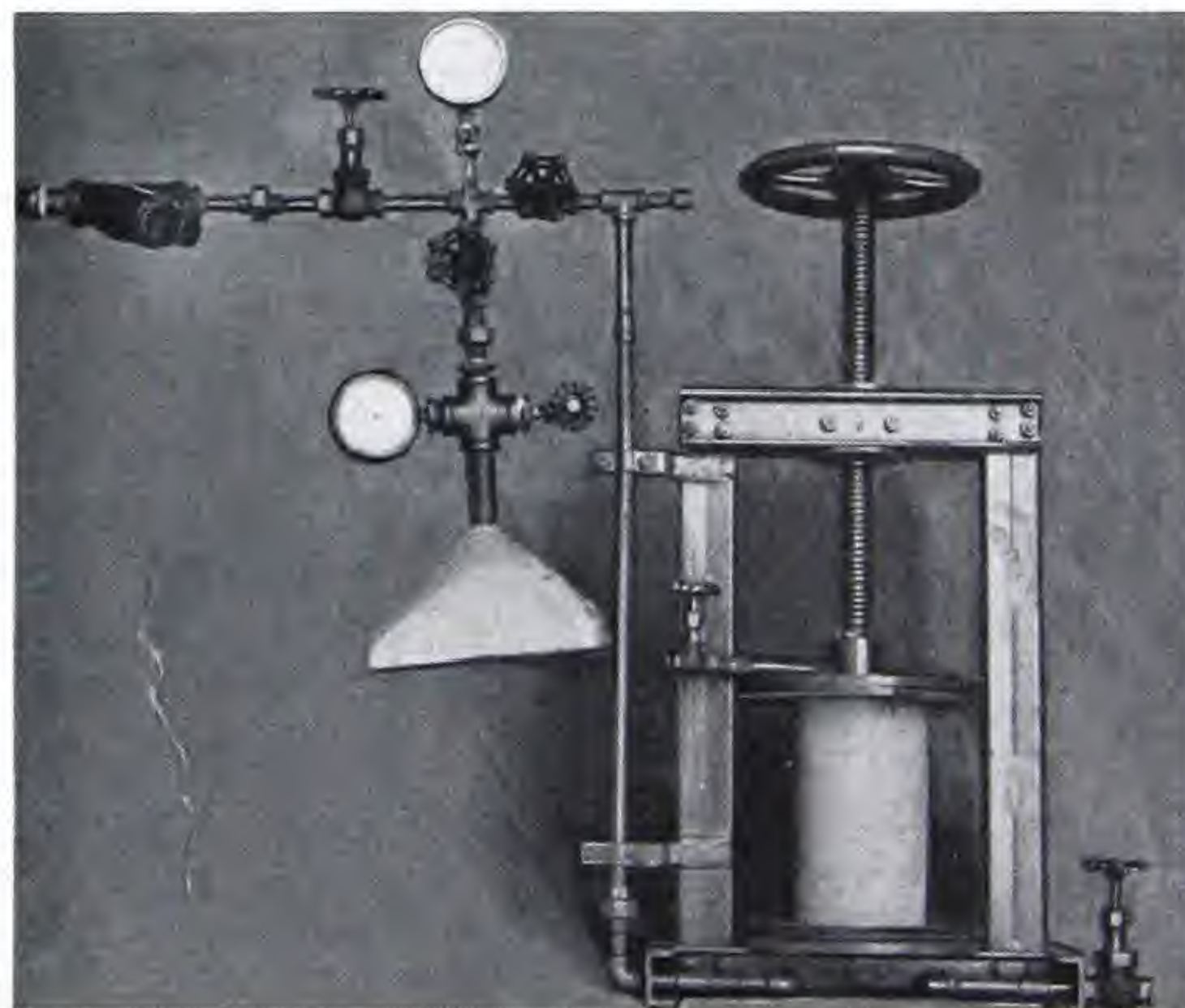
## AMERCOAT RAPID-DRY COATING

AMERCOAT RAPID-DRY COATING IS A QUICK-DRYING, EASY-TO APPLY, BRUSHABLE COATING SOLUTION THAT IS EXCEPTIONALLY EFFICIENT.

AMERCOAT RAPID-DRY COATING differs from AMERCOAT PLASTIC and AMERCOAT ENAMEL insofar as the filler material is concerned. AMERCOAT RAPID-DRY COATING does not contain any mineral aggregates.

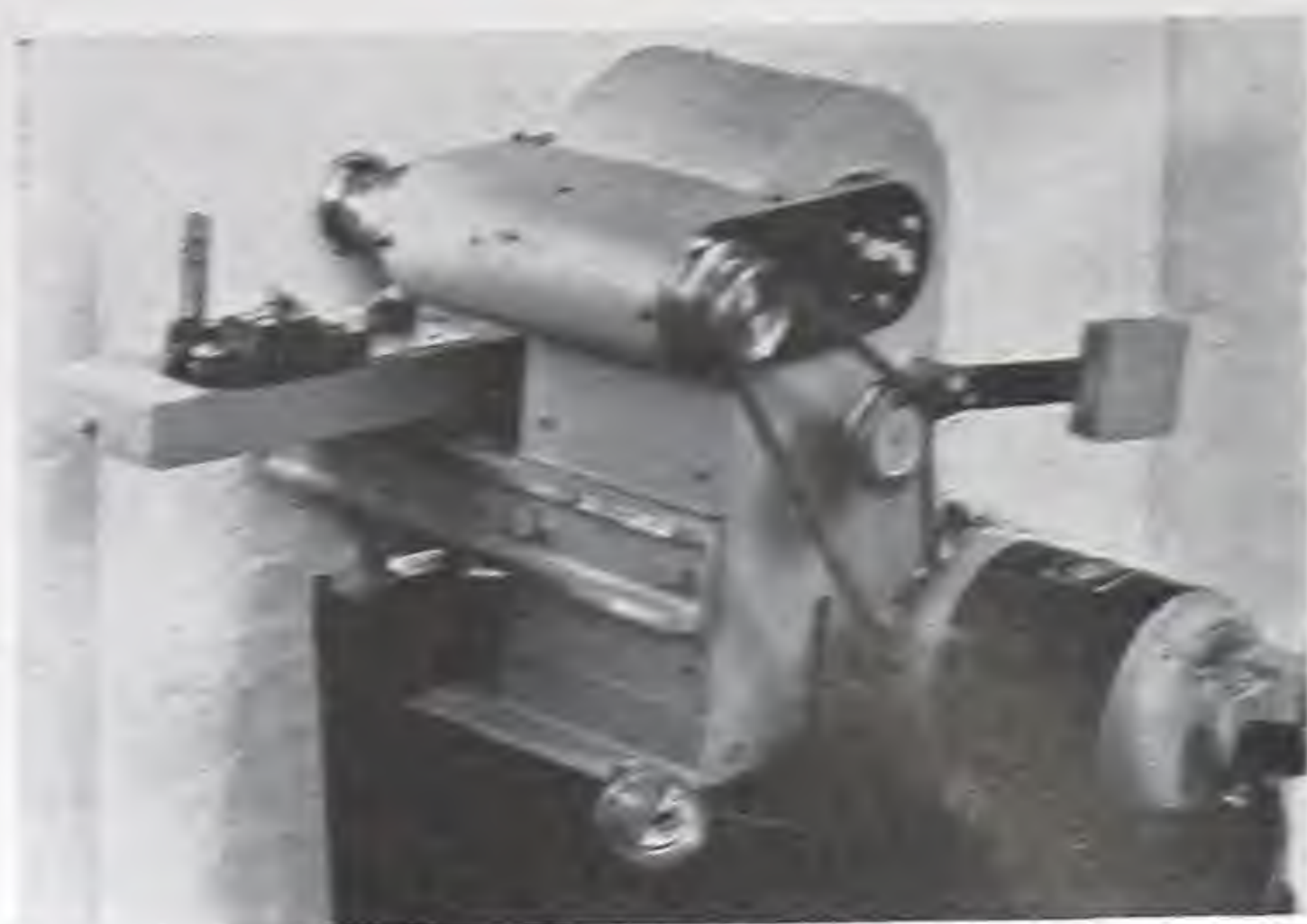
AMERCOAT RAPID-DRY COATING is designed for use as a protective coating to resist the action of corrosive liquids and gases where this corrosion is only moderately severe. Where either very severe corrosion, erosion, or abrasion is present, it is recommended that AMERCOAT PLASTIC or AMERCOAT ENAMEL be used.

The base substance of AMERCOAT RAPID-DRY COATING Solution is the same as that of AMERCOAT PLASTIC and AMERCOAT ENAMEL. It contains no oils, so it will not saponify, hydrolize,



Tests for water tightness are made on this machine. This little pipe was made of cement lined with AMERCOAT ENAMEL. It had a wall thickness of 1/2", a diameter of 3 3/4". It successfully withstood, over a long period, a hydrostatic pressure of 10 pounds without leakage.





AMERCOAT RAPID-DRY COATING is an exceptionally efficient exterior paint, or coating, for machines and machinery.

or acidify. Its particular advantage is the rapid-dry feature and its ability to be brushed on with a paint brush as well as sprayed on.

The preparation of the surface for AMERCOAT RAPID-DRY COATING is the same as for the application of AMERCOAT ENAMEL or AMERCOAT PLASTIC: that is, steel should be clean, preferably sand-blasted; wood surfaces should be free of varnish, loose paint, or other coatings; and concrete should be slightly roughened or treated with acid.

AMERCOAT RAPID-DRY COATING Solution cannot be applied directly to the surface to be pro-

tected; use the proper AMERCOAT Prime, AMERCOAT Concrete Prime for concrete surfaces and AMERCOAT Metal and Wood Prime for metal or wood surfaces.

AMERCOAT RAPID-DRY COATING Solution should be applied over the Prime in three coats where the corrosion is at all severe, and in two coats where it is designed only for resistance to fumes or mildly corrosive liquids. These applications need require no more than 4 to 8 hours drying time between them. The coverage per gallon is approximately 250 square feet per coat.

AMERCOAT RAPID-DRY COATING is furnished in blue-gray or black, or it may be supplied in special colors. Black Rapid-Dry Solution is the most corrosion resistant of all colors.

When desired, or required, a coat of AMERCOAT Seal Coat may be applied over the Rapid-Dry Coating to produce greater gloss and increase the resistance to wear and corrosion.

AMERCOAT RAPID-DRY COATING either with, or without, a seal coat, is an excellent exterior coating for machinery and equipment. It is not recommended as a lining for containers of extremely corrosive liquids.

AMERCOAT RAPID-DRY COATING will not water-wet, so it is particularly adaptable for use in and about dairies, creameries and similar plants.

## AMERCOAT COATINGS IN SPECIAL COLORS

Although AMERCOAT Coatings are not designed to be produced in any and every color and shade, it is quite possible to supply AMERCOAT coatings in the principal colors and shades, for example: AMERCOAT SNOW WHITE gives a very sanitary appearance and AMERCOAT green, blue, yellow, black, etc., are possible of production where such colors are essential and the ordinary blue-gray AMERCOAT will not suffice.

AMERCOAT in colors is produced by using a pigmented AMERCOAT Enamel Coat and a pigmented Seal Coat. Oftentimes it is necessary to use two seal coats, the first of which is heavily pigmented and the second lightly pigmented to produce the desired gloss.

As an example of colored AMERCOAT Coatings, AMERCOAT WHITE ENAMEL is offered as the ideal coating where sanitary appearance is important, together with high resistance to corrosion that is caused by bacterial fermentation or putrefaction, acid fumes and basic or acid liquids. This coating is snow-white in color and has a glazed surface.

The procedure for forming an AMERCOAT SNOW-WHITE coating is to first prime the surface with the required AMERCOAT Prime, then apply AMERCOAT Snow White Enamel Solution. After

the majority of the solvents have left this coat, a heavy white pigmented seal coat is applied, then in 24 hours a lightly pigmented White seal coat is applied. Wherever it is desirable to do so, it is possible to sand down the coating, after the enamel coat is hard, or after the first seal coat is dry.

Like any AMERCOAT Enamel coating, these pigmented colors will not water-wet; neither will they acidify, hydrolyze or saponify. However, their resistance to extreme corrosion depends upon the pigments used to produce the colors. If the color requires a pigment that is not inert, the resistance of the resultant coating will be cut down considerably.

Not all colors may be produced, as very few of the usually used paint pigments may be employed in an AMERCOAT Solution, and not all of those which may be employed are chemically inert. Black is the most corrosive-resistant; blue-gray is next and other colors follow along in their turn.

When colored AMERCOAT is desired, or required, it is advisable to consult the manufacturer before settling upon any definite color or shade.

AMERCOAT Rapid-Dry Coating or AMERCOAT PLASTIC may also be supplied in other than their natural colors, when pigmentation is desired, or required.





# AMERCOAT PLASTIC

AMERCOAT PLASTIC is, as the name implies, a plastic material designed to meet certain specific conditions. It is compounded by mixing clean, graded aggregate with certain synthetic organic plastics in solution.

AMERCOAT PLASTIC is particularly designed to protect concrete, metal or wood surfaces that are subjected to both the action of corrosive agencies and very severe abrasion or erosion. It is not considered desirable to use AMERCOAT PLASTIC for corrosion resistance only, or for moderate abrasion resistance.

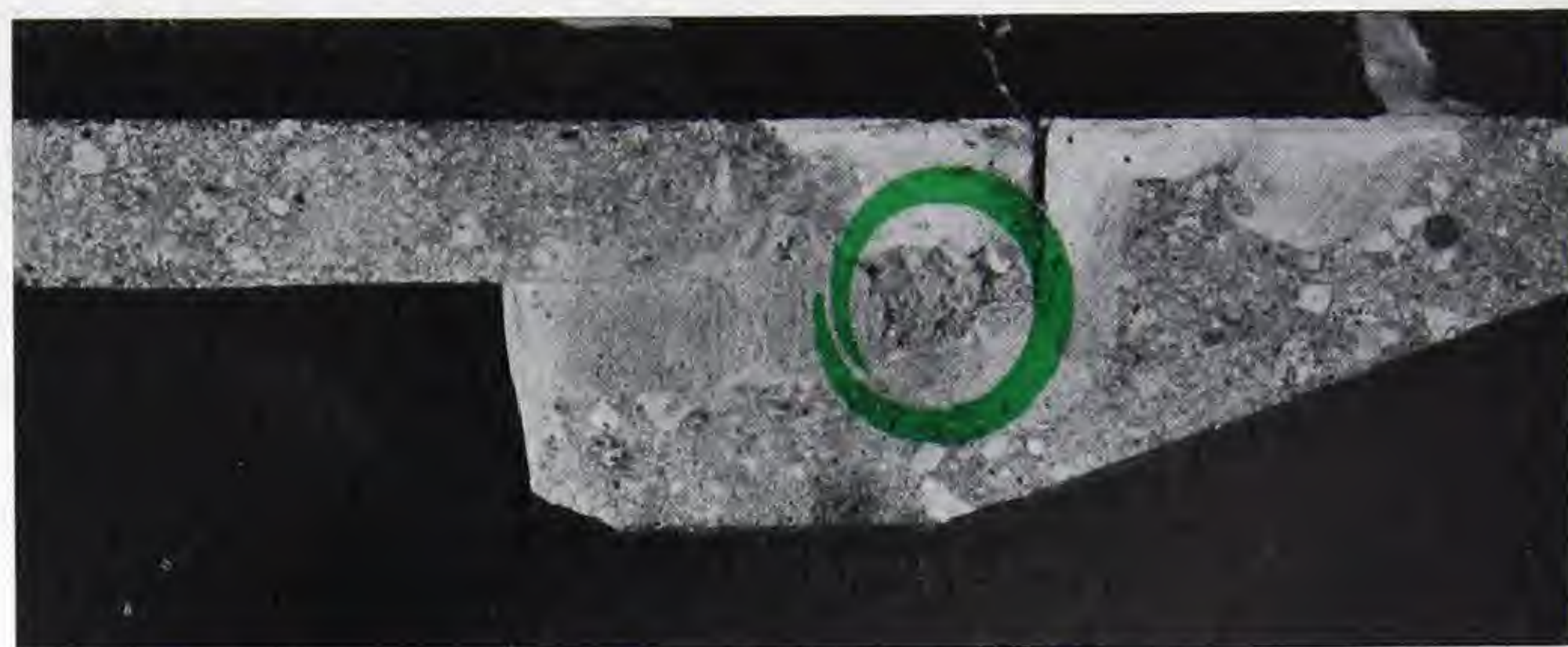
The formula for AMERCOAT PLASTIC is 75% by weight of aggregate to 25% by weight of the synthetic organic plastics in solution; the aggregate is proportioned 80% by weight, which will pass through a 30 screen and remain on a 65 screen, and 20% by weight, which will pass through a 14 screen and remain on a 30 screen. Unless otherwise desired, AMERCOAT PLASTIC is mixed and prepared ready for use at the factory and shipped in one gallon and five gallon containers.

AMERCOAT PLASTIC cannot be applied directly to either concrete, metal or wood surfaces. It is necessary to use the required AMERCOAT Prime as an undercoat, and then either spray or trowel the plastic on, to the required thickness. After the plastic coat has had an opportunity of losing most of its solvents, it should be sealed with a generous coat of AMERCOAT Seal Coat.

For ordinary purposes, a coat of AMERCOAT PLASTIC 1/16" thick should be adequate protection. However, when it is desired, or required, to increase this thickness to 1/8", the AMERCOAT PLASTIC should be applied in two layers of 1/16" in thickness each, and a coat of AMERCOAT Seal Coat Solution



AMERCOAT PLASTIC makes an excellent lasting mortar for laying up acid-proof brick.



Cross-section through joint of pipe showing the use of AMERCOAT Plastic to form a corrosion-proof, erosion-proof seal that is sufficiently plastic to withstand vibration or slight movement of the joined pipes without breaking the seal.

applied between the two layers as well as over the top of the topmost layer.

AMERCOAT PLASTIC cannot be sprayed with ordinary paint-spray equipment, but may be sprayed with specially constructed spray guns and adequate air pressure. The recommended method of application, however, is troweling and the trowel should be kept wet with acetone, to prevent sticking during the application.

AMERCOAT PLASTIC never hardens to a rigid mass throughout its entire thickness—it has a certain amount of surface hardness and will resist pressure and light pounding, but it remains a plastic and can be dented by severe pounding or excessive weight that is centered at one point. However, AMERCOAT PLASTIC, like AMERCOAT ENAMEL, will not chip or peel off.

AMERCOAT PLASTIC will not water-wet and it will seal off capillary moisture as well as the infiltration of moisture through walls under moderate pressures.

The surface to which AMERCOAT PLASTIC is to be applied, must be prepared as it should be for any AMERCOAT application, and it is desirable to apply AMERCOAT PLASTIC when the temperature of the surface to which it is to be applied is below 85 degrees Fahrenheit. One square foot of AMERCOAT PLASTIC 1/8" thick weighs approximately one pound.

AMERCOAT PLASTIC makes an excellent mortar for acid-proof brick and for sealing pipe joints of either vitreous clay, cast iron or AMERCOAT lined concrete pipe. AMERCOAT PLASTIC also makes an exceptionally good flooring material, particularly where the floor is subjected to acid drip, continued wetting or strong alkali solutions. It is not slippery on its surface and experience in the field to date indicates that it will wear almost indefinitely.

AMERCOAT PLASTIC may well be used as a substitute for concrete or other types of flooring materials aboard ship or in other locations where it is not desirable to leave steel plates or wood bare and unprotected.





## SUGGESTED SPECIFICATION FOR THE APPLICATION OF AMERCOAT ENAMEL ON CONCRETE

The (inside — outside — top — bottom, etc.) surfaces of (name of structure) shall be covered with AMERCOAT ENAMEL to a minimum thickness of 1/64". AMERCOAT ENAMEL is a proprietary product, a protective coating manufactured by the American Concrete & Steel Pipe Company of Los Angeles, California.

AMERCOAT ENAMEL shall be applied with a minimum of three coats, prime, body, and seal coat, in the order named.

The coating shall be chemically inert. When immersed for 48 hours in either hydrochloric, nitric, sulphuric, or acetic acid, the acid having a normality of one (1.0 N)\*, the percentage of acid soluble matter shall not exceed 0.25 per cent. The purpose of this test is to determine resistance to the action of acids.\*\*

The cement concrete surface to which AMERCOAT Enamel is to be applied must be clean, surface dry, free from previously applied coatings, and must contain no disintegrated or chalky material.

Where the structure has been subjected to the action of acids, gases or liquids with the consequent partial destruction of the surface, that surface should be chipped back to solid, clean concrete, neutralized (see paragraph 3), and again brought to uniformity and smoothness with a new troweled coating of cement mortar.

Where it has become necessary as outlined above to chip the acid affected concrete back to a solid, clean surface, that surface, dry, can be neutralized and rendered acid-free by a wash coating of a 5% solution of caustic soda (soda lye), followed by a capious washing with water.

Following neutralization, the smoothing of the surface by application of a troweled coating of cement mortar provides the ground for the application of AMERCOAT Enamel.

Where the cement concrete surface contains pinholes or is of a definitely porous character, a thin coating of sprayable Enamel should be applied directly thereon and, while it is still fresh and wet, rubbed by hand into the holes and porous surface to establish a tight, impervious ground for the subsequent application of the Enamel as directed in the following.

To secure the best bond, the concrete surface should be that as left ordinarily by forms, rather than the hard, shiny finish made by troweling. Temperature of surface should be below 85° F. when Enamel is applied.

Where the surface is of hard, dense, slick, and impervious character, it should be sand-blasted or chipped to provide the proper surface for best adhesion of Enamel.

AMERCOAT CONCRETE PRIME (Solution No. 2) should be applied over the surface to be covered at a rate of approximately 200 square feet per gallon. A drying period of 4 hours will be required before the application of the body coat.

The body coat or AMERCOAT ENAMEL (Solution No. 23) shall be applied by air spray and to a thickness of approximately 1/64". (One gallon of AMERCOAT ENAMEL will cover approximately 100 square feet with a thickness of 1/64".)

AMERCOAT Enamel, Solution No. 23, is a mixture of AMERCOAT Solution No. 4 and finely divided inert pigment, and is shipped ready for application.

Because the pigments are heavy, non-absorbent, and suspended in a light vehicle, it will be necessary to stir well before use. Where the spray operation is conducted from a pressure pot, it will be well to use air agitator equipment with the pot.

The mixed Enamel is adaptable to paint spray equipment of the pressure pot or pressure cup type, or the circulating pump method is satisfactory, the quantity of work to be performed indicating the type. On small jobs, use the small capacity pressure cup equipment; for large work, the pressure pot equipment; and where exceptionally large volume requires it, the pressure circulation system will provide more material than can be handled by any one gun.

The spray gun shall be operated under a pressure of ap-

proximately 12 to 15 pounds on material and an available air supply of approximately 80 pounds. A period varying from 24 to 48 hours will be required before the application of the AMERCOAT SEAL (Solution No. 4).

The seal coat shall be applied at a rate of approximately 200 square feet per gallon of solution. This coat may be applied by brush or spray.

All solutions shall be applied evenly and without leaving pinholes, bubbles, flaws or holidays. Each of the three coats shall completely cover the surface to be protected.

The finish coating shall not be subjected to use for a period of 24 hours after application of the final or seal coat. No tests shall be made on the finished coating for a period of 48 hours after the application of the seal coat.

TESTS—Test locations may be selected at random by the engineer at the rate of one location for each 500 square feet of surface covered. Test locations shall be one square foot in area.

The test location may be subjected to 10 per cent concentration of any one of the following acids: sulphuric, sulphurous, acetic, nitric or hydrochloric, or a 10 per cent concentration of caustic soda, for a period of 24 hours. The protective coating and the material protected shall be unaffected by this test. Should the material fail to pass the test, the protective coating shall be repaired to the satisfaction of the engineer, after which a retest may be required at his discretion.

The completed coating shall be uniformly and tightly bonded to the underlying surface. It shall have a plasticity which will prevent its cracking or breaking under the impact of a two-pound ball dropped through a distance of five feet.

Concrete tanks built to contain petroleum products shall be protected by a second seal coat. This coating may be applied by brush or spray 24 hours after first seal coat, at a rate of approximately 200 square feet per gallon of solution.

The protective coating shall fulfill the additional requirements set out below, and the engineer may at his discretion require the following tests to be made:

ABRASION TEST. The coating shall be abrasion-resistant and it shall successfully withstand, without visible wear, the flow of sand and water with a velocity of seven feet per second for a period of 250 hours. The water shall contain by weight 20 per cent of sand passed through a No. 10 screen. (Laboratory tests may be accepted by the engineer in lieu of tests for each or every job.)

ABSORPTION TEST. Specimens of the protecting material weighing no less than one pound, shall be subjected to an absorption test. The specimens shall be brought to a constant weight in a drier or oven at a temperature of 140° F. After reaching this constant weight, the specimens shall be weighed, then placed in tap water and left for a period of 48 hours. The specimens shall then be removed and allowed to drain for one minute. Superficial moisture shall be removed by towel or blotting paper and the specimens shall then be placed upon a balance and weighed. The absorption shall be calculated as the percentage of the gain in weight to the initial dry weight. Results shall be reported separately for each individual specimen. In no event shall the coated specimen have an absorption of more than one per cent.

TENSILE STRENGTH TEST. As a test of both the tensile strength and the bond of the coating, when a 1/8" layer of same is placed between two specimens of the material to be coated, and having an area of one square inch, it shall withstand a pull of 250 pounds when fully dried.

The finished coating shall be smooth, it shall be uniform, dense, and strong, and shall have a definite positive bond to the (name of structure or material).

\*Note: The following percentages are required to make an acid of a normality of one: sulphuric acid, 4.90 per cent; hydrochloric acid, 3.65 per cent; nitric acid, 6.30 per cent; and acetic acid, 6.00 per cent.

\*\*Note: A.S.T.M. requirement on vitrified clay sewer pipe.





## THE APPLICATION OF AMERCOAT ABOARD



There is an **AMERCOAT COATING** or solution to preserve every inch of the exterior and interior of marine vessels. **AMERCOAT** coatings will prolong the useful life and decrease the operation and maintenance costs of ships of every variety, including tankers, many times that of those which have unprotected metal or wood or even metal and wood protected by the usual types of paints and coatings.

**AMERCOAT MARINE BOTTOM PAINT** forms a lasting, marine growth repelling resinous coating on ship bottoms.

This paint, which may be applied either with a paint-spray or brushed on, consists of a three solution coating; the coats go on one over the other, no more than one hour's drying time is necessary between the application of the coats, and the boat may go into the water the same day it is painted, or it may be left out of the water for some time. Sunlight has no damaging effect on the paint either before or after it has been submerged.

**AMERCOAT MARINE BOTTOM PAINT Prime** is a mixture of quick evaporating solvents which leave a film that is water-proof, unaffected by salt water, highly anti-corrosive and which sticks tightly to bare steel or wood or to old paint.

**AMERCOAT MARINE BOTTOM BODY Coat** is a solution designed to give ample protective thickness of a tough plastic character, which will resist erosion.

**AMERCOAT MARINE BOTTOM PAINT Seal Coat** forms a semi-gloss over the other two coats, yet it penetrates through to the prime coat and forms all three coats into a homogeneous mass. This third, or seal coat, will not water-wet and it contains prop-

erly designed poisonous blending materials which prohibit the attachment of sea organisms of animal or vegetable nature.

The usual color of **AMERCOAT MARINE BOTTOM PAINT** is a brownish-red but it may be pigmented to other colors if desired or required.

**AMERCOAT MARINE BOTTOM PAINT** has several outstanding features: Upon removal of the boat from sea or fresh water, the paint does not crack, check or scale and will not lift off as other coatings or coverings for similar purposes often do. When used over old paint that is tightly adhered to the bottom, **AMERCOAT MARINE BOTTOM PAINT** unites with the old paint to form a tough sheet or coating of a lasting nature. When applied to unpainted steel or wood, **AMERCOAT MARINE BOTTOM PAINT** forms a resinous plastic sheet that adheres tightly, is corrosive-resistant, marine growth resistant, and which has proved by actual experience that it will endure for from eighteen months to two years without attention or removal.

When **AMERCOAT MARINE BOTTOM PAINT** finally does show signs of wear, it is not necessary to remove the entire coating; it may be renewed by applying a single coat of **AMERCOAT MARINE BOTTOM PAINT** solution, or by adding a coat of





CORROSION-PROOF, SPRAYABLE, PLASTIC COATINGS FOR CONCRETE, METAL AND WOOD



The deck fittings, as well as the catwalk, superstructure, and deck may be AMERCOATED to increase the length of their useful life.

each of the AMERCOAT MARINE BOTTOM BODY Coat and AMERCOAT MARINE BOTTOM Seal Coat.

AMERCOAT MARINE BOTTOM PAINT preserves hulls, cuts down the water resistance by the smoothness of its surface and through the fact that marine growth will not cling to it, and it eliminates the necessity of frequent dry-docking for repainting.

AMERCOAT MARINE BOTTOM PAINT may be used on surfaces that are continuously submerged or on surfaces that are only partly submerged or on surfaces that are exposed to sun and spray, with equal success.

AMERCOAT MARINE BOTTOM PAINT is a method whereby a synthetic organic plastic coating may be applied to a ship bottom easily, quickly and cold.

Ship hulls and ship superstructures that are subjected only to the corrosive action of sunlight and spray, should be protected with AMERCOAT ENAMEL and AMERCOAT RAPID-DRY COATING, either of which will give many months of serv-

ice and preserve the wood or steel against the corrosive action of salt water and salt spray corrosion. Where metallic coatings, either copper, lead or aluminum, are desirable, AMERCOAT Metallic Solutions are most suitable for marine use.

For decks, showers, washrooms, galleys, etc., where it is desirable to have a floor covering that will resist wear, will not water-wet and will be a preservative against any and all types of corrosive action, AMERCOAT PLASTIC is recommended.

AMERCOAT PLASTIC may be applied directly to the steel plates and to wood decking and thus decrease the ship's weight by eliminating the necessity of using concrete or similar material. Although its color ordinarily is a light brown, AMERCOAT PLASTIC may be pigmentized to practically any desired color, including snow white.

For galleys and public rooms, where white coating is desirable on the walls and ceiling, AMERCOAT SNOW WHITE ENAMEL is recommended.

AMERCOAT ENAMEL is an ideal coating for fresh water tanks, salt water tanks, cargo tanks carrying corrosive liquids or petroleum derivatives and for bilges.

Summing up, the adoption of AMERCOAT Coatings for the preservation of ship hulls and ship fittings will not only greatly increase the length of their useful life but will, as well, considerably cut down the cost of operation and maintenance. Smooth polished hulls that are free of marine growth require less power for propulsion and long lasting bottom paint means less frequent dry-docking.



Tuna boat Victoria in San Diego Harbor. Two 3,000 gallon steel fuel tanks were sand blasted and coated with AMERCOAT ENAMEL in September, 1937. As fuel tanks are emptied they are washed out and refilled with salt water in which the fish are stored. The water is maintained at about 28° F. by refrigeration. Obviously, this is a severe exposure for any protective coating. Previous coatings had proved inadequate and metal deterioration and difficulties with storage of fish were severe.



**T**HERE is nothing at all intricate about the application of AMERCOAT COATINGS; no special skill is required and all necessary instructions for the application of each solution will be found on the container of that solution. Where spray equipment is used, the spray gun should be of the pressure type, not suction type. Brushable solutions may be applied in the usual manner for any fast-drying paint and commercial Acetone is the proper thinner and cleaning solution for brushes, spray and other application equipment.

Since no protective coating can perform without a good foundation, it is essential that AMERCOAT coatings be applied to surfaces which are free of other coatings and foreign matter that might, in time, loosen up and take the AMERCOAT with them. AMERCOAT Prime solutions will stick to old paint, and in an emergency may be applied to old paint, if the paint is tightly adhered to the surface underneath, but such a practice is not recommended for the maximum successful performance of AMERCOAT coatings. To be sure of an enduring foundation, metal should be free of rust or scale, preferably sand-blasted; concrete should be solid and firm and wood should be in its natural state.

AMERCOAT SALES AGENCY maintains an engineering staff for the analysis of, and correction of corrosive problems of all types and kinds, and American Concrete & Steel Pipe Company maintains a chemical testing laboratory and development laboratory for the benefit of AMERCOAT users. Regardless of your corrosion problem, if it be within the temperature range, and if the corrosion agents be other than the very few which will attack AMERCOAT COATINGS, we feel confident of our ability to assist you.

A complete list of AMERCOAT achievements and AMERCOAT users will be furnished upon request.





COATINGS give the appearance of any good paint or protective covering. When properly applied are smooth and semi-glaze.